

DESCRIPTION OF A NEW WESTERN AUSTRALIAN PIPEFISH
(*CHOEROICHTHYS LATISPINOSUS*), WITH NOTES ON *SYNGNATHUS*
TUCKERI SCOTT AND *NANNOCAMPICHTHYS HORA* AND *MUKERJI*

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ABSTRACT

Choeroichthys latispinosus (characterized by a spiny anterolateral process on snout, short and deep snout, and hyaline dorsal fin) is described from South Murion Is., Western Australia; a revised key to the genus is provided. Published data on *Syngnathus tuckeri* Scott are emended, records from Twofold Bay, N.S.W. extend the known range from Tasmania to continental Australia and notes are given on generic relationships. *Nannocampichthys* Hora and Mukerji (type-species: *N. gigas*) is found to be a junior synonym of *Entelurus* Duméril. All treated species are illustrated.

INTRODUCTION

In continuation of studies on Indo-Pacific pipefishes (Syngnathidae), I here describe a new species of *Choeroichthys* Kaup from Western Australia, report on the first known specimen of *Syngnathus tuckeri* Scott from continental Australian waters, and discuss the status of the nominal genus *Nannocampichthys* Hora and Mukerji.

Measurements are in millimetres (mm); proportional data are referred to standard length (SL) or head length (HL); depths are reported in metres (m); other methods follow Dawson (1977). Study materials are deposited in collections of the British Museum of Natural History (BMNH), California Academy of Sciences (CAS), Queen Victoria Museum and Art Gallery, Launceston, Tasmania (QVM), Western Australian Museum (WAM) and Zoological Survey of India, Calcutta (ZSI).

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CHOEROICHTHYS LATISPINOSUS N. SP.

(Fig. 1)

Diagnosis

Snout with bilateral recurved spinous process protruding laterad; scutella not keeled; without knoblike projections below lateral trunk ridge; snout depth 2.8 in snout length; dorsal fin not bicoloured.

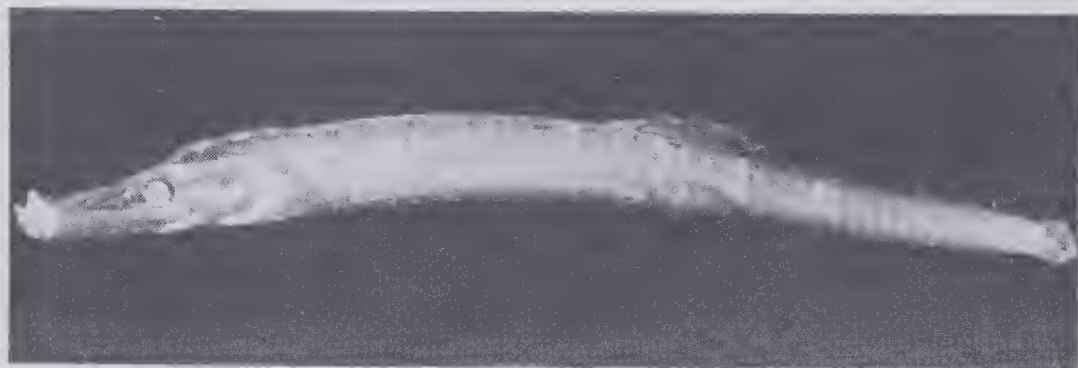


Fig. 1: *Choeroichthys latispinosus* n. sp. WAM P.25815-024, holotype, 27.5 mm SL, female.



Fig. 2: *Choeroichthys latispinosus*. Lateral and dorsal aspects of head and anterior trunk rings; detail illustrates spiny lateral snout ridge. From 27.5 mm SL holotype, WAM P.25815-024.

Description

Dorsal-fin rays 22; rings 19 + 20; subdorsal rings $5.5 + 0.25 = 5.75$; pectoral-fin rays 20; anal rays 4; caudal rays 10. Measurements (mm) of holotype: standard length (SL) 27.5, head length (HL) 6.6, snout length 3.1, snout depth 1.1, length of dorsal-fin base 3.6, anal ring depth 1.6, trunk depth 2.2, pectoral-fin length 1.0, length of pectoral-fin base 0.8.

Side of snout (Fig. 2) with a protruding spiny ridge between verticals from tip of upper jaw and origin of median dorsal snout ridge; spines (10 on left side, 8 on right) conical; ridge and spines distally free from snout and re-curved posteriad. Median lateral snout ridge slightly arched, originates behind spiny anterior lateral ridge; median dorsal snout ridge begins on anterior third of snout, its height extends well above level of nares behind; supraopercular and supraorbital ridges continuous, confluent in front with superior lateral snout ridge, ridges somewhat expanded laterad above opercle and eye; interorbital and internarial region flat, depressed well below ridge margins; prenuchal, nuchal and frontal ridges moderately elevated; suborbital narrow, without prominent ridges; opercle with distinctly elevated median longitudinal ridge, a single reduced ridge above and four below; pectoral-fin base with two prominent longitudinal ridges. Median ventral trunk ridge distinct but not keel-like; inferior ridges of 1st trunk ring enlarged, expanded somewhat laterad, venter depressed between; principal ridges indented between most rings, notched between last 5-6 tail rings where posterior ring angles are distinctly pointed. Scutella indistinct, without keels; trunk and tail surfaces depressed between principal ridges; margins of head and body ridges entire, other surfaces irregularly sculptured with a few minute ridges. Odontoid processes (Dawson and Fritzsche 1975) not prominent in holotype but 2-3 projections are visible on premaxillae at X60 magnification.

Ground colour brown in alcohol. Jaws with irregular pale mottling, snout elsewhere with a few indistinct pale spots on dorsum and 5-6 pale spots along inferior ridge. Median dorsal head ridges with three pale blotches on midline; dorsum of trunk and tail with indications of 8-9 irregular, narrow, pale blotches which occasionally extend slightly ventrad on superior ridges; side with irregular pale mottling below middle of dorsal fin and a diffuse pale bar across juncture of 1st-2nd tail ring; edges of principal ridges translucent or pale; all fins hyaline.

A colour slide of the fresh holotype shows ground colour to be very dark brown, pale areas are white and dorsal fin is narrowly edged with black or brown.

Etymology

Named from the Latin *latus* (side) and *spinosus* (thorny), in reference to the protruding lateral snout ridge.

Comparisons

The protruding recurved spiny anterolateral snout ridge immediately separates *C. latispinosus* from all congeners. It is most similar to *C. smithi* in gross appearance, both have smooth-edged ridges and ring-counts overlap. In addition to the lateral snout spines, *C. latispinosus* has one more dorsal-fin ray than examined *C. smithi* (22 against 17-21), slightly longer dorsal-fin base (covers 5.75 rings against 3.75-5.25), snout depth in length ratio is somewhat higher (2.8 against an average of 2.3), and dorsal fin is hyaline in preservative (distinctly bicoloured in *smithi*).

Remarks

This unusual *Choeroichthys* requires the following emendation of the generic diagnosis (Dawson 1976): protruding subvertical spiny anterolateral snout ridge present or absent. A revised key to the genus is given below.

Holotype

WAM P.25815-024 (27.5 mm SL, female), Western Australia, South Murion Is., from coral/limestone formation on reef-front slope, 8 m, SCUBA and rotenone, 7 June 1977, Sta. MUR 77-005, J.B. Hutchins and J. Tryndall.

KEY TO THE SPECIES OF *CHOEROICHTHYS*

- | | | | | |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------|--------|------------------------------|---|
| 1a | Scutella of trunk and tail keeled; dorsal-fin rays 27-34; subdorsal rings 6.25-8.25 | | <i>C. sculptus</i> (Günther) | |
| 1b | Scutella not keeled; dorsal-fin rays 17-26; subdorsal rings 3.75-6.0 | | | 2 |
| 2a | Snout short, its depth less than 3 in length; trunk rings 18-19; with spiny anterolateral snout ridge or dorsal fin bicoloured | | | 3 |
| 2b | Snout longer, its depth more than 3.5 in length; trunk rings 14-18 (99.6% with 17 or fewer); without spiny snout ridge; dorsal fin not bicoloured | | | 4 |

- 3a Snout with protruding, recurved, subvertical spiny anterolateral ridge (Fig. 2); dorsal fin hyaline *C. latispinosus* n. sp.
- 3b Snout without spiny anterolateral ridge; dorsal fin distinctly bicoloured, mainly brown in front and pale behind *C. smithi* Dawson
- 4a Without knoblike projections below lateral ridge on posterior margins of trunk rings; head length averages about 5 in SL; tail rings 17-20 (fewer than 20 in 93%); trunk plain or with 1-2 rows of small dark spots, without dark bars *C. brachysoma* (Bleeker)
- 4b Males (females?) with knoblike projections below lateral ridge on posterior margins of most trunk rings; head length about 4 in SL; tail rings 20-21; body with dark bars (females?) *C. cinctus* Dawson

SYNGNATHUS TUCKERI

Scott (1942) described *Syngnathus tuckeri* from a single male fish from Bridport, Tasmania and six additional specimens have since been recorded from the northern Tasmanian coast (Scott 1960, 1964, 1975). I have recently examined the holotype (QVM 1971/5/28; 121.5 mm SL), two other Tasmanian specimens (QVM 1975/5/110; 76-99 mm SL), and two (CAS-SU 36427, 133.5-159 mm SL) collected at Twofold Bay, N.S.W., on 3 February 1940 by G. Clark. Counts from the latter (Fig. 3), apparently representing the only records of *S. tuckeri* from continental Australia, are: rings 21 + 41-42; dorsal-fin rays 36 (both fish); pectoral-fin rays 11 (4 counts); subdorsal rings 8.75 + 2.0-2.5 = 10.75-11.25; anal fin apparently with 3 rays; caudal-fin rays 10 (both). The male (133.5 mm) with brood pouch developed below 11 anterior tail rings; pouch plates present but little enlarged; eggs missing but persistent membranous compartments indicate maximum of 6 transverse egg rows and 15 compartments in outer right row. Proportional data (male in parentheses) are: HL in SL 7.9 (7.7); snout length in HL 1.8 (1.9); snout depth in snout length 7.2 (6.6); length of dorsal-fin base in HL 1.0 (both fish); anal ring depth in HL 5.6 (5.8); trunk depth in HL 3.7 (4.7); pectoral-fin length in HL (5.4); length of pectoral-fin base in HL 10.6 (12.4).

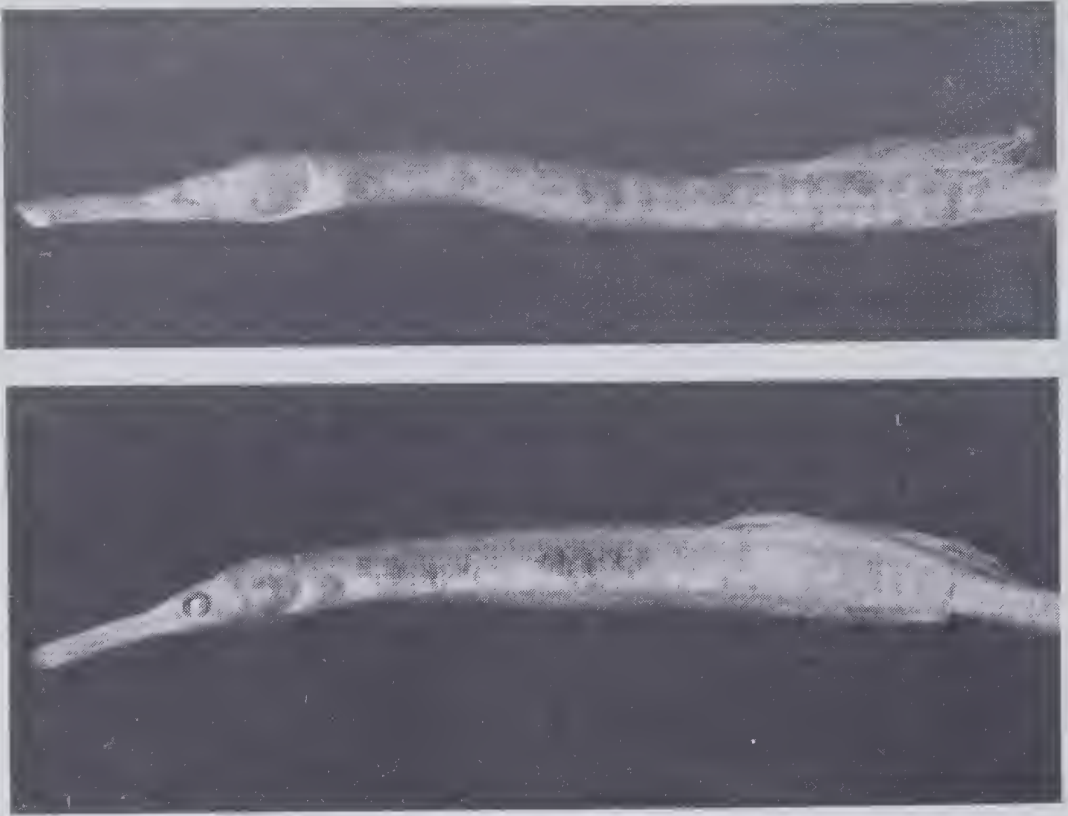


Fig. 3: *Syngnathus tuckeri* Scott. CAS-SU 36427, Twofold Bay, New South Wales. Top — male, 133.5 mm SL. Bottom — female, 159.0 mm SL.

My examination of the holotype shows 41 tail rings and 10 rays in the damaged caudal fin, rather than the originally described respective values of 42 and 5; subdorsal rings total 11.75, rather than 12.0; pouch plates present but little enlarged; pouch closure is the everted type of Herald (1959); an elongate anal fin with at least two rays is present, rather than 'indistinguishable' as described. I also find the following discrepancies in counts reported by Scott (1975) for two other specimens (QVM 1975/5/110): rings 22 + 40-41 (rather than 23 + 43-45), dorsal-fin rays 37-38 (against 36-37), pectoral-fin rays (4 counts) 11-12 (against 13), caudal-fin rays 10 (2 counts) rather than 6, and both fish have elongate 2-3 rayed anal fins. Data from four specimens not examined here (Scott 1960, 1964) together with those treated above show the following meristic values for the 9 known specimens of *S. tuckeri*: rings 20-23 + 40-43 = 60-64; dorsal-fin rays 32-38 (usually 35-38); pectoral-fin rays 11-13 (usually 11-12); subdorsal rings 10.0-8.75 + 1.75-2.5 = 10.75-12.25; caudal-fin rays 10; anal-fin rays 2-3.

Whitley (1948), evidently without examining specimens, referred *Syngnathus tuckeri* to his inadequately diagnosed monotypic genus *Mitotichthys*. Scott (1960, 1975) has followed this treatment or (Scott 1955, 1961, 1964) retained the species in *Syngnathus*. The species was treated (in *Syngnathus*) by Munro (1958) and listed (in *Mitotichthys*) by Whitley and Allan (1958), but I find no other literature citations. *Syngnathus tuckeri* clearly differs from *Syngnathus* Linnaeus (type-species *Syngnathus acus* L.) in a number of features (e.g. convex dorsum of subdorsal rings, dorsal fin location mainly on trunk, everted pouch closure), but recognition of one more monotypic genus seems premature. As implied by Scott (1942), general morphology and meristics suggest that *tuckeri* is related to the poorly defined assemblage of pipefishes now referred to *Histiogamphelus* McCulloch. Pending review of the latter, I deem it best to retain *tuckeri* in the catch-all genus *Syngnathus*.

NANNOCAMPICHTHYS

Hora and Mukerji (1936) described *Nannocampichthys* (type-species *N. gigas*) for the accommodation of a single female pipefish received from Rangoon in a sample of 238 fishes reportedly collected at Maungmagan, Tavoy District, Lower Burma (14° 30'N, 97° 50'E). The genus was tentatively compiled in the synonymy of *Entelurus* Dumeril by Norman (1966), but I am unaware of other references to *Nannocampichthys* and its status has remained in doubt.

The holotype of *Nannocampichthys gigas* (ZSI F.11870-1) has confluent superior trunk and tail ridges; inferior trunk ridge ends at anal ring; lateral trunk ridge confluent with inferior tail ridge; opercle without longitudinal ridge; dorsal-fin rays 40; rings 29 + 62; subdorsal rings $8.75 + 2.5 = 11.25$; pectoral and anal fins absent; caudal fin rudimentary with about 9 distorted rays. Measurements (mm) follow: SL 436.5, HL 38.5, snout length 19.9, snout depth 3.7, length of dorsal-fin base 56.2, anal ring depth 8.3, trunk depth 12.7. This fish lacks evidence of fleshy predorsal fold and no distinctive markings persist.

I have compared the holotype (Fig. 4) with several *Entelurus aequoreus* (Linnaeus), including a 440 mm SL female (BMNH 1894.10.22.2) from the eastern North Atlantic, and find no substantive differences in gross morphology, counts or proportional characters. I therefore agree with Norman's (1966) treatment of *Nannocampichthys* and find *N. gigas* to be conspecific with *Entelurus aequoreus*.

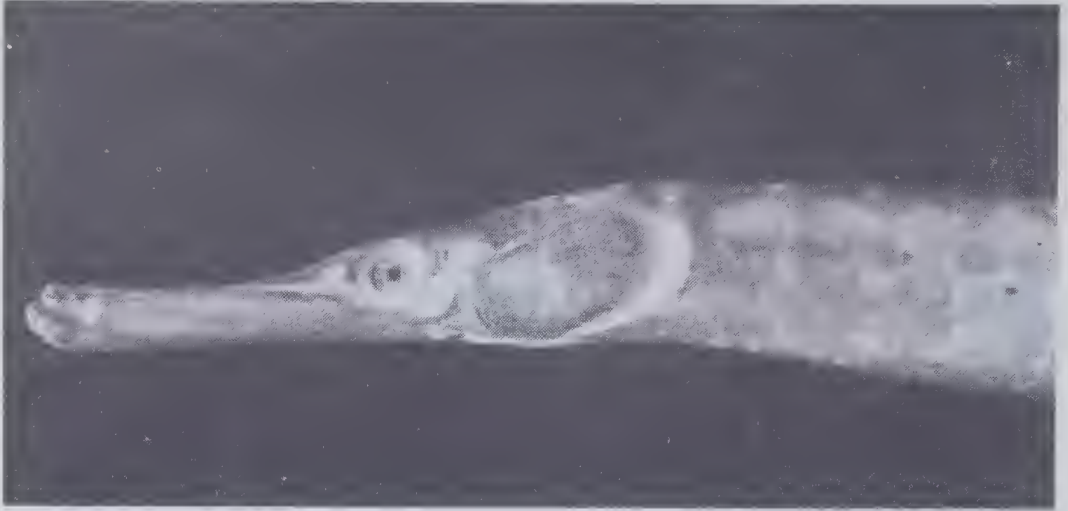


Fig. 4: *Nannocampichthys gigas* Hora and Mukerji [= *Entelurus aequoreus* (Linnaeus)]. ZSI F.11870-1, holotype, 436.5 mm SL, female (head and anterior trunk rings).

Hora and Mukerji (1936) noted that the Rangoon material included single specimens representing five eastern Atlantic taxa (*Ammodytes lanceolatus*, *Blennius pholis*, *Trachinus draco*, *Cottus bubalis*, *Lophius piscatorius*), and that these identifications were subsequently confirmed by J.R. Norman (BMNH). They recognized the highly questionable nature of these extralimital records, but their several attempts to verify the source of these specimens were not completely successful. Available evidence indicates that Atlantic material of unknown origin was included in the Burma collection, and that Hora and Mukerji failed to realize that their single pipefish was also of Atlantic origin.

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